(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/041242 A1

(51) International Patent Classification[7]: H01J 37/09

(21) International Application Number:
PCT/EP2004/011825

(22) International Filing Date: 19 October 2004 (19.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03023826.5 20 October 2003 (20.10.2003) EP

(71) Applicant *(for all designated States except US)*: **ICT, INTEGRATED CIRCUIT TESTING GESELLSCHAFT FÜR HALBLEITERPRÜFTECHNIK MBH** [DE/DE]; Ammerthalstrasse 20a, 85551 Heimstetten (DE).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **FROSIEN, Juergen** [DE/DE]; Kufsteinerstrasse 16a, 85521 Riemerling (DE). **LANIO, Stefan** [DE/DE]; Eichendorffstrasse1, 85435 Erding (DE). **BANZHOF, Helmut** [DE/DE]; Jahnstrasse 50, 72793 Pfullingen (DE).

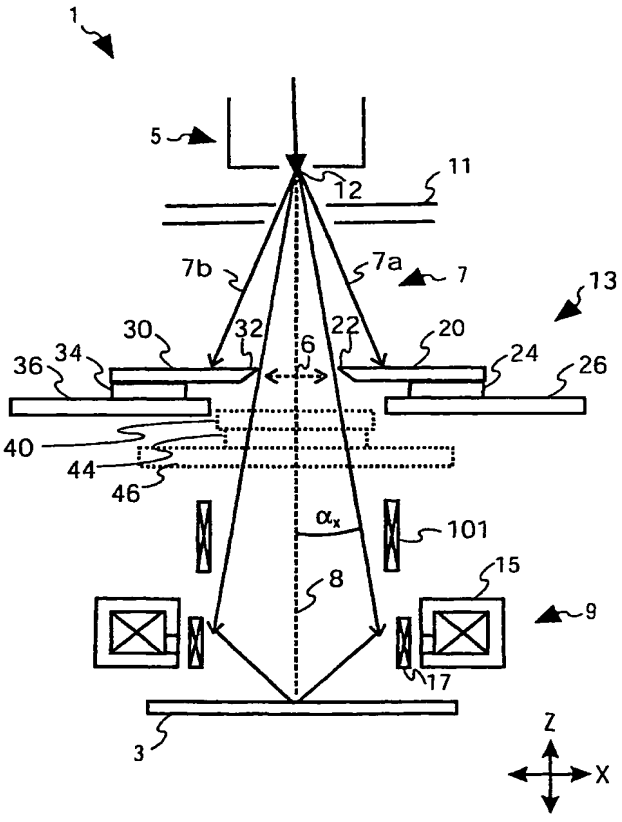
(74) Agents: **ZIMMERMANN, Gerd** et al.; Zimmermann & Partner, Postfach 330 920, 80069 Munich (DE).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH,

[Continued on next page]

(54) Title: CHARGED PARTICLE BEAM DEVICE WITH APERTURE



(57) Abstract: The present invention relates to a charged particle beam device (1) for inspecting or structuring a specimen (3) comprising a charged particle beam source (5) to generate a charged particle beam (7), a focussing lens (9) to focus the charged particle beam (7) onto the specimen (3), and an aperture system (13) for defining an aperture (6) for the charged particle beam (7). The aperture system (13) includes a first member (20) to block a first portion (7a) of the charged particle beam (7) between the charged particle beam source (5) and the focussing lens (9), a second member (30) to block a second portion (7b) of the charge particle beam (7) between the charged particle beam source (5) and the focussing lens (9), first means (24) for moving the first member (20) to adjust the size of the blocked first portion (7a) of the charged particle beam (7), and second means (34) for moving the second member (30) independently from the first portion (7b). With such aperture system (13), it is possible to freely adjust the size of the aperture (6) and align it to the optical axis (8) during operation.

WO 2005/041242 A1

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.